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# Impact of Communication Between Physicians and Dentists on the Incidence of Jaw Osteonecrosis Caused by Bone Anti-Resorptives

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## Abstract

Dental management of osteoporosis patients on anti-resorptive therapy can be challenging for both the dentist and physician because of the risk of osteonecrosis of the jaw (ONJ). This editorial reflects on the paper written by Tagushi *et al* that expressed a relative lack of communication between health care providers when treating osteoporosis patients. Osteoporosis-related bone fractures can be debilitating and occasionally lethal, but management with anti-resorptives is vital while cognizant of the complication of ONJ that can also negatively impact patient's quality of life.



## Keywords

Osteoporosis, anti-resorptive therapies, osteonecrosis of the jaw, bisphosphonates, communication between physicians and dentists


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# Impact of communication between physicians and dentists on the incidence of jaw osteonecrosis caused by bone anti-resorptives

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## Abstract

Dental management of osteoporosis patients on anti-resorptive therapy can be challenging for both the dentist and physician because of the risk of osteonecrosis of the jaw (ONJ). This editorial reflects on the paper written by Tagushi *et al* that expressed a relative lack of communication between health care providers when treating osteoporosis patients. Osteoporosis-related bone fractures can be debilitating and occasionally lethal, but management with anti-resorptives is vital while cognizant of the complication of ONJ that can also negatively impact patient's quality of life.

### Keywords

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A common African proverb states that '*when two elephants fight, it is the grass that suffers'*. Which means that the foot stamping that goes on back and forth between the fighting animals will destroy the grass leaving an indelible patch of barren land within the grassland. When considering the issues of osteoporosis, anti-resorptive therapies and the complication of osteonecrosis of the jaw (ONJ), it is not a case of just 'two elephants' but three. So if these three are not properly balanced, patient's health and quality of life will be compromised.

Osteoporosis is a major skeletal disorder that affects over 10 million individuals worldwide[1]. It is projected that healthcare burden of osteoporosis will rise astronomically by 2050 due to the aging population[1]. Many osteoporosis patients are treated with anti-resorptive drugs such as bisphosphonates and denosumab, both of which have been associated with the

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complication of ONJ. Anti-resorptives are highly efficacious and have been used successful in the management of osteoporosis and skeletal events of cancer metastasis[2, 3]. They also provide many drug options to choose from as well as different dosing regimens. Unfortunately ONJ is a major complication of anti-resorptives[4–6]. It is recalcitrant and unpredictable, which has alarmed the medical community to prescribe anti-resorptives with caution. There is still no clear understanding of ONJ pathophysiology, and management regimens are still confusing at best[7, 8]

The increasing incidence of osteoporosis due to the aging population combined with the reliance on anti-resorptive therapies means a balance must be struck to improve osteoporosis while limiting the occurrence of ONJ so patient outcomes can be improved. Many local and systemic etiological factors that promote osteoporosis also induce alveolar bone loss[9]; hence the direct effects of osteoporosis coupled with administration of anti-resorptive drugs further heighten the concerns about ONJ. There is a need to balance osteoporosis therapy with prevention of ONJ, but this has caused several controversies between different medical and dental professionals. Some have proposed that withdrawal or dose reduction of anti-resorptive therapy will reduce the incidence of ONJ[10–12] but this theory has not been clearly proven. Notwithstanding, some dental healthcare providers as reported by Tagushi *et al* often request physicians to withdraw anti-resorptive therapy before major dental procedures[13]. Unfortunately, this approach increases the chances of causing adverse events of osteoporosis including skeletal fractures that will further jeopardize the health of the patient.

The paper by Tagushi *et al* highlight the possibility that lack of cooperation between physicians and dentists during the management of osteoporosis may in fact cause an increase in osteoporosis related fractures and ONJ[13]. In a previous study the authors used a questionnaire-based survey of Japanese physicians and determined that discontinuation of anti-resorptives before dental extractions increased adverse events of osteoporosis but did not prevent the development of ONJ[14]. As this study was conducted among physicians in private clinics with limited sample size (n = 209), the authors conducted a follow up study using a larger sample size (n = 629) of physicians in an academic environment[13]. The paper reported that many Japanese dentists continued to request discontinuation of anti-resorptives before dental extractions. The authors also showed that there were 3.6% and 0.7% cases of osteoporosis-related adverse events and ONJ respectively within 3 months of discontinuing the use of anti-resorptives. However these increased to 5.3% and 1.6% respectively when the anti-resorptives were discontinued for more than 3 months[13].

The confounding factor was that 62% of respondents did not request dental evaluation prior to commencement of anti-resorptive therapy, which made it unclear whether this had an impact on the outcome of dental extractions performed after discontinuation of anti-resorptives. The authors also stated that physicians who refused discontinuation of anti-resorptives did not report any case of ONJ but it was also not clear whether these patients received routine dental care before and during the use of anti-resorptives.

In spite of the confounding factors, Tagushi *et al* concluded that these results supported their earlier data and strengthens the assertion that cooperation between physicians and dentists treating patients with osteoporosis is vital to prevention of both osteoporosis related

fractures and ONJ[13]. Additionally, these results also clearly emphasize the limited value of the 'drug holiday' theory that discontinuation of anti-resorptives will reduce occurrence of ONJ. Another cogent point from this study is the reported lack of cooperation between physician and dentists when managing osteoporosis patients. Since treatment guidelines have been established by several medical and dental societies and academies[15, 16], a clear communication between physicians and dentists should foster sharing of information on current management regimens for both osteoporosis and ONJ. Just as 'two fighting elephants cause the grass to wither', lack of communication between physicians and dentists managing osteoporosis patients may hamper patient care outcomes. It is vital to keep the lines of communications open among healthcare providers when managing patients with osteoporosis.

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**Transparency**

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